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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ODLAND, DAVID E

ART UNIT PAPER NUMBER

2662

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/469,670

Applicant(s)

SKOOG, FREDERICK H.

Examiner

David Odland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The following is a response to the amendments filed on 12/2/2003.

Claim Objections

2. Claim 6 is objected to because of the following informalities: the claim recites "...the PFPs." However, the independent claim (claim 1) only recites a single PFP and not a plurality of PFPs. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi et al. (USPN 5,434,863), hereafter referred to as Onishi.

Referring to claim 1, Onishi discloses a router for providing transportation of messages between a main processor and packet flow processors (a router comprising an RM router manager and RA routing accelerators for which packets are transported between over a bus (see figure 1)), the messages transported via a transport media (packets are transported over a routing bus (see figure 1)), the protocol comprising:

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a Dynamic Routing and Control (DRC) driver for interfacing to the main processor (the RM router manager performs routing and control (see figure 1 and column 7 and 8));

a transport interface for interfacing between said DRC driver and the transport media (the RM router manager interfaces the router bus for packet transmissions (see figure 1 and columns 7 and 8));

a Packet Flow Processor (PFP) driver for interfacing to the packet flow processors (RA routing accelerators are used to process flows of packets (see figure 1 and columns 7 and 8));

a transport interface for interfacing between said PFP driver and the transport media (the RA routing accelerators interface the routing bus (see figure 1 and columns 7 and 8)); and

said DRC driver and said PFP driver transporting messages between the main processor and the packet flow processors (the RM routing manager and the RA routing accelerators transport packets between each other (see figure 1 and columns 7 and 8)).

Onishi does not disclose that the RM routing manager and the RA routing accelerator further comprise API's. However, It would have been obvious to one skilled in the art at the time of the invention to use API's in the system of Onishi because API's are existing software units used by higher layer applications to perform lower layer operations, therefore the use of this existing software would reduce the developmental cost of Onishi since entirely new methods of handling lower layer operations do not need to be created and thus allow Onishi to conform to an established standard. Furthermore, having API's will make the Onishi more user-friendly, thus making it easier to use.

Referring to claim 2, Onishi discloses the system discussed above. Furthermore, Onishi discloses that the messages transported between the main processor and the packet flow

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processors include Internet protocol, routing table distribution and control and maintenance (messages between the RM routing manager and the RA routing accelerator include IP packets (see column 9), a routing table (see column 7). Onishi does not disclose that control and maintenance messages are also transferred between the RM routing manager and the RA routing accelerators. However, the RM routing manager manages the whole system of Onishi(see column 7 lines 1-5). Therefore, it would have been obvious to one skilled in the art at the time of the invention to use control and maintenance messages in the system of Onishi because such messages will help the system perform properly, thereby making the system more reliable.

Referring to claim 3, Onishi discloses the system discussed above. Furthermore, Onishi discloses that the PFP driver transports traffic messages between ingress and egress ports of one or more of the packet flow processors via the transport media (the RA routing accelerators transmit and receive packets over the routing bus (see figure 1 and column 7)).

Referring to claim 4, Onishi discloses the system discussed above. Furthermore, Onishi discloses that the traffic includes Internet protocol (the packets transported in the system of Onishi are IP packets (see column 9)). Onishi does not disclose that the system also transports multi-protocol labels (MPLS) traffic. However, It would have been obvious to one skilled in the art at the time of the invention to transport MPLS traffic as well as IP traffic in the system Onishi because doing so would make the system more versatile in that it can support more than one transport protocol.

Referring to claim 5, Onishi discloses the system discussed above. Furthermore, Onishi discloses that the DRC driver translates message format and routing information between a first protocol used by the main processor and a second protocol used by the transport media (the RM

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routing manager uses a particular protocol for performing its operations and the router bus of the system uses a different protocol, such as packet transportation, thus inherently the RM routing manager has a driver to perform the function of transporting the routing and transport information, which is to be used by each of the accelerators, from itself into a format amenable to the router bus (see figure 1 and column 7)).

Referring to claim 6, Onishi discloses the system discussed above. Onishi does not disclose that the DRC driver includes a routing table including addresses of the PFPs. The RM routing manager must inherently know the addresses of the RA routing accelerators since it needs to control each one of them and send them information via the routing bus. However, it would have been obvious to one skilled in the art at the time of the invention to implement the addressing of the RA routing accelerators in a routing table because without a table the RM routing manager would have to broadcast to all accelerators any information it wanted to send to a particular accelerator, thereby wasting bandwidth of the routing bus.

Response to Arguments

5. Applicant's arguments filed 12/02/2003 have been fully considered but they are not persuasive.

On page 5 the Applicant argues that the "...invention is able to translate message format and routing information between CDP 20 and a transport media 24...as described on page 6, lines 21-23..." and that "...there is no mention in the Onishi reference or any mentioned need to reuse the router manager 2 in different system architectures..." However, these features of the Applicant's invention are not recited in the rejected claim(s). Although the claims are interpreted

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in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, the Applicant also argues on page 5 that the motivation relied upon by the Examiner is only found in the present application and not in the prior art and therefore is improper (i.e. improper hindsight reasoning). The Examiner respectfully disagrees. It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only **knowledge which was within the level of ordinary skill at the time the claimed invention was made**, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The Examiners motivation for using API's in the Onishi reference was to reduce developmental costs and make the system more user-friendly (as discussed in the above rejection). Although the Applicant argues the Examiner used motivation that was found in the Applicants specification, there is no mention in the Applicant's specification that using API's would reduce developmental costs or make the system more user-friendly. Lastly, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves **or in the knowledge generally available to one of ordinary skill in the art**. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, APIs (Application Programming Interfaces) are established higher layer programs that provide users of a system with a way to communicate with and control lower layer functions (see Appendix A, for a definition of API

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from *Newton's Telecom Dictionary 12th Edition*, copyright 1997). Therefore, it would have been obvious to a skilled artisan at the time if the invention to implement API's in the Onishi system because doing so would allow the system to conform to an already existing standard, thus reducing developmental costs and also make the router of Onishi more user-friendly by allowing the users to control the router using a higher layer program interface.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Odland, who can be reached at (703) 305-3231 on Monday – Friday during the hours of 8am to 5pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached at (703) 305-4744. The fax number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, who can be reached at (703) 305-4750.

deo

February 15, 2004



JOHN PEZZLO
PRIMARY EXAMINER

Appendix A

over which it is possible to calculate the radiation pattern. For a series of n stacked transmitting elements such as dipoles or slots, the vertical aperture is usually defined as n times the element spacing in wavelengths.

Aperture Distortion In facsimile, the distortions in resolution, density, and shape of the recorded image caused by the shape and finite size of the scanning and recording apertures or spots.

Aperture Grille A type of monitor screen made up of thin vertical wires. Said to be less susceptible to burning than iron shadow mask.

API An Application Programming Interface is software that an application program uses to request and carry out lower-level services performed by the computer's or a telephone system's operating system. For Windows, the API also helps applications manage windows, menus, icons, and other GUI elements. In short, an API is a "hook" into software. An API is a set of standard software interrupts, calls, and data formats that application programs use to initiate contact with network services, mainframe communications programs, telephone equipment or program-to-program communications. For example, applications use APIs to call services that transport data across a network. Standardization of APIs at various layers of a communications protocol stack provides a uniform way to write applications. NetBIOS is an early example of a network API. Applications use APIs to call services that transport data across a network.

API Connection An ATM term. Native ATM Application Program Interface Connection: API connection is a relationship between an API endpoint and other ATM devices that has the following characteristics:

1. Data communication may occur between the API endpoint and the other ATM devices comprising the API connection
2. Each API connection may occur over a duration of time only once; the same set of communicating ATM devices may form a new connection after a prior connection is released
3. The API connection may be presently active (able to transfer data), or merely anticipated for the future

API Automatic Program Load In telecomm. In data processing, it's a popular programming language.

APLT Advanced Private Line Termination Provides the PBX user with access to all the services of an associated enhanced private switched communications services (EPCS) network. It also functions when associated with a common control switching arrangement (CCSA) network. See Advanced Private Line Termination.

APM 1. Average Positions Manned, the average number of ACD positions manned during the reporting period for a particular group.

2. Advanced Power Management. A specification sponsored by Intel and Microsoft to extend the life of batteries in battery-powered computers. The idea of the specification is for the application programs, the system BIOS and the hardware to work together to reduce power consumption. An APM-compliant BIOS provides built-in power management services to the operating system. The operating system passes calls and information between the BIOS and the application programs. It also arbitrates power management calls in a multi-tasking environment (such as Windows) and identifies power-saving opportunities not apparent to applications. The application software communicates power-saving data via predefined APM interfaces. Only a very few programs presently conform to APM.

Apocalypse, Four Horsemen Of The four horsemen of the Apocalypse were War, Plague, Famine and Death.

Apogee The point on a satellite orbit that is most distant from the center of the gravitational field of the Earth.

Apogee To lay the foundation for a future offense.

APPG Advanced Program-To-Program Communications. In SNA, the architectural component that allows sessions between peer-level application transaction programs. The LUs (Logical Units) that communicate during these sessions are known as LU type 6.2. APPG is an IBM protocol analogous to the OSI model's session layer: it sets up the necessary conditions that enable application programs to send data to each other through the network.

APPC/PC An IBM product that implements APPC on a PC.

Appearance Usually refers to a private branch exchange line or extension which is on (i.e. "appears") on a multi-button key telephone. For example, extension 445 appears on three key systems.

Appearance Test Point The point at which a circuit may be measured by test equipment.

Append To add the contents of a list, or file, to those of another.

APPGEN A shortened form of the words Applications GENERator.

Apple Computer, Inc. Cupertino, CA. Manufacturer of personal computers. Heavy penetration in the graphics/desktop publishing business and in education. Apple was formed on April Fool's Day, 1976, by Steve Wozniak and Steve Jobs, aided greatly by Mike Markkula.

Apple Desktop Bus The interface on a Mac where non-peripheral devices, such as the keyboard, attaches. A Mac keyboard or mouse is called an ADB device. Contrast with peripherals, which attach through the SCSI interface. See also USB, which is a new bus for use on PCs but fulfilling essentially the same function as the Apple Desktop Bus.

Apple Desktop Interface ADI. A set of user-interface guidelines, developed by Apple Computer and published by Addison-Wesley, intended to ensure that the appearance and operation of all Macintosh applications are similar.

Apple Menu The Apple icon in the upper left hand corner of the Apple Macintosh screen. The Apple menu contains aliases, control panels, the chooser and other desk accessories.

Apple Pie Both an American icon, and the name chosen for Apple Computer's Personal Interactive Electronics (PIE) division, chartered with extending the company into new growth areas such as Personal Digital Assistants (PDAs), e.g. the Apple Newton. The PIE division includes Apple Online Services, Newton and Telecommunications group, publishing activities, and Scripps-based multimedia PDA development.

Apple Remote Access ARA is Apple Computer's dial-in client software for Macintosh users allowing remote access to Apple and third party servers.

Applon A small application that performs a specific task, such as the Cardfile and Calculator in Microsoft Windows. See also J **AppleTalk** Apple Computer's proprietary networking protocol for linking Macintosh computers and peripherals, especially printers. This protocol is independent of what network it is layered on. Current implementations exist for LocalTalk (230.4 K and EtherTalk (10Mbps).

AppleTalk Zone and Device Filtering Provides an additional level of security for AppleTalk networks. On AppleTalk networks, network managers can selectively hide or show devices and/or zones to ARA clients. See ARA.

Application A software program that carries out some useful task. Database managers, spreadsheets, communications packages, graphics programs and word processors are all applications.

Application Binary Interface ABI. The rules by which software code is written to operate specific computer hardware. Application software, written to conform to an ABI, is able to be run on a wide variety of system platforms that use the common hardware for which the ABI is designed.

Application Bridge Aspect Telecommunications' ACD to host computer link. Originally it ran only over R2-232 serial connections, but it now runs over Ethernet, using the TCP/IP link protocol. See also OPEN APPLICATION INTERFACE.

Application Class An SCSA term. A group of client applications that perform similar services, such as voice messaging fax-back services.

Application Entity A cellular radio term. An Application Entity provides the service desired for communication. An Application Entity may exist in an M-ES (Mobile End System) (i.e., mobile application entity) or an F-ES (Fixed End System). An Application Entity is named with an application entity title.

Application Equipment Module AEM. A Northern Telecom term for a device within the Meridian 1 Universal Equipment Module that supports Meridian Link Modules. The Meridian Link Module (MLM) is an Application Module, specially configured to support the Meridian Link interface to host computers.

Application For Service A standard telephone company order form that includes pertinent billing, technical and descriptive information which enables the company to provide communications network service to the customer and its authorized users.

Application Framework This usually means a class library with a fundamental base class for defining a complete program. The framework provides at least some of the facilities through which a program interfaces with the user, such as menus and windows, in a style that is internally consistent and abstracted from the specific environment for which it has been developed. This is an explanation I received from Borland. I don't quite understand it, yet. An application framework is an object-oriented class library that integrates user-interface building blocks, fundamental data structures, and support for object-oriented input and output. It defines an application's standard user interface and behavior so that the programmer can concentrate on implementing the specifics of the application. An application framework allows developers to reuse the abstract design of an application by modeling each major component of an applications as an abstract class.

Application Generator AG. A program to generate actual programming code. An applications generator will let you produce software quickly, but it will not allow you the flexibility had you programmed it from scratch. Voice processing "applications generators," despite the name, often do not generate programming code. Instead they are self-contained environments which allow a user to define and execute applications. They are more commonly called applications generator, since one generator can define and execute many applications. See APPLICATIONS GENERATOR for a longer explanation.

Application Module A Northern Telecom term for a computer that can be attached to a Northern Telecom phone system to add intelligence and programmability to the phone system. Often, the AM will be a computer conforming to open standards as DOS or Windows, or it may be VME-based.

Application Module Link AML. A Northern Telecom internal and proprietary link that connects the Meridian 1 (via E or MSDI port) to the Meridian Link Module.

Application Program A computer software program designed for a specific job, such as word processing, accounting spreadsheet, etc.

Application Program Interface API. A set of formalized software calls and routines that can be referenced by an application program to access underlying network services.

Application Programming Interface API. A set of functions and values used by one program to communicate with another program or with an operating system. See API for a better explanation.

Application Profile AS SCSA term. A description of the kinds of resources and services required by a client application (an application class). An application profile is defined once for an instance of an application; then system services such as SCR will be able to fulfill the needs of the application without the application having to state its needs explicitly.

Application Server As a Sun Microsystems term, it is the foundation of Solaris' client-server Server Suite. It's used to offload legacy systems. Acts as front-end to mainframes by augmenting them with distributed database servers. Adds NetWare IPX/SPX stack to Solaris 2.5. With this software, NetWare users can run 32-bit multiprocessor, multithreaded databases such as Oracle and Informix without a NetWare Loadable Module (NLM).

Application Service Element ASE. A messaging term. A module or portion of a protocol in the application layer 7 of the (Open Systems Interconnection) protocol stack. Several ASEs are usually combined to form a complete protocol, e.g., the X.400 protocol which consists of the MTSE (Message Transfer Service Element), and the RTSE (Reliable Transfer Service Element).

Application Software Interface ASI. The Application Software Interface is a product of the Application Software Interface Expert Working Group of the ISDN Implementers Workshop. The interface focuses on the definition of a common application interface for accessing and administering ISDN services provided by hardware commonly referred to in the vendor community as ISDN gateways.